

Amendments to the Claims:

Please amend Claims 1-8, 10, 11, and 13-36 as follows. This listing of Claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for one pass assembly in raster image processing of image elements using memory, the method comprising the steps of:

forming a plurality of lists from image elements within a job file, the plurality of lists including at least a first list for recurring image elements ~~and storing the first list in rasterized form~~, and at least a second list for variable image elements ~~and storing the second list in non-rasterized form~~;

storing the recurring image elements of the first list in rasterized form;

storing the variable image elements of the second list in non-rasterized form;

identifying placement within at least one memory area of the recurring image elements and the variable image elements;

initializing the at least one memory area with stored recurring image elements from the first list; and

raster image processing (RIPping) the at least one memory area with stored variable image elements from the second list.

2. (Currently Amended) The method of claim 1, further comprising the step of placing additional recurring image elements in the at least one memory area ~~areas~~ after the step of raster image processing.

3. (Currently Amended) The method of claim 2, wherein the step of placing further comprises placing recurring image elements that have no variable image elements below them on a stack of image layers.

4. (Currently Amended) The method of claim 1, wherein the step of forming further comprises forming the first list with recurring image elements that do not have any variable image elements below them on a stack of image layers.

5. (Currently Amended) The method of claim 1, wherein the step of forming further comprises forming the second list from variable image elements that are not recurring and from recurring image elements that have variable image elements below them on a stack of image layers.

6. (Currently Amended) The method of ~~claim 5~~ claim 1, wherein the step of forming further comprises forming the second list from variable image elements that are not recurring and from recurring elements that have variable image elements both below them on a stack of image layers and above them on the stack of image layers.

7. (Currently Amended) The method of claim 1, wherein the step of identifying further comprises locating overlapping areas between image elements.

8. (Currently Amended) The method of claim 7, wherein the step of identifying further comprises identifying clip regions for calculating overlapping areas between image elements.

9. (Original) The method of claim 8, wherein the step of identifying further comprises identifying clip regions that are non-rectangular to calculate overlapping areas.

10. (Currently Amended) The method of claim 7, wherein the step of identifying further comprises employing information from the job file to locate overlapping areas between image elements.

11. (Currently Amended) The method of claim 10, wherein the step of RIPping further comprises RIPping image elements from the second list into the at least one memory area in accordance with overlapping areas designated by the identifying step and image element placement within the job file.

12. (Original) The method of claim 1, further comprising the step of interpreting mark up language and page description language with the job file.

13. (Currently Amended) A raster image processing system for creating personalized prints comprising:

a print engine ~~within the system~~ that receives digital data to create prints;

an input area ~~within the system~~ for receiving a pre-authored job file;

a storage system including a first memory area and a second memory area;

a processing means with associated storage means within the system
coupled ~~both~~ to the print engine, the storage system, and the input area, for forming and storing a plurality of lists from image elements within the pre-authored job file, the plurality of lists including a first list of recurring image elements and a second list of variable image elements, the list of recurring image elements of the first list being stored in rasterized form in the first memory area, and the list of variable image elements of the second list being stored in non-rasterized form in the second memory area;

~~at least one~~ a third memory area within the storage system ~~and associated with the processing means~~, the third memory area being at least (a) initialized with image elements from the list of recurring image elements and (b) raster image processed using image elements from the list of variable image elements, wherein placement of the image elements in the third memory area is arranged in accordance with image element placement within the pre-authored job file;

a memory output device that allows contents of the rasterized third memory area to be ~~sent to the memory area~~ output to the print engine.

14. (Currently Amended) The raster image processing system of claim 13, wherein the plurality of lists further include a ~~second~~ third list of recurring image elements that have variable image elements below them on a stack of image layers, the ~~second~~ third list of recurring image elements being stored ~~by the storage means~~ in the storage system in rasterized form and placed in the third memory area on top of the variable image elements in the stack of image layers in accordance with image element placement within the pre-authored job file.

15. (Currently Amended) The system of claim 13, wherein the processing means reads the pre-authored job file including ~~a mark-up~~ markup language data and page description language data.

16. (Currently Amended) The system of claim 13, wherein the list of recurring image elements formed by the processing means further comprises image elements that do not have any variable image elements below them on a stack of image layers.

17. (Currently Amended) The system of claim 13, wherein the list of variable image elements further comprises ~~non-recurring elements and~~ recurring image elements that have variable image elements above them on a stack of image layers and below them on the stack of image layers.

18. (Currently Amended) The system of claim 13, wherein the third memory area further comprises a plurality of memory bands.

19. (Currently Amended) The system of claim 18, wherein one of the memory bands is being initialized and RIPPed with data from the pre-authored job file while ~~the~~ another memory band is having its contents sent to the print engine by the memory output device.

20. (Currently Amended) The system of claim 13, wherein the processing means identifies overlapping areas between image elements contained within the pre-authored job file.

21. (Currently Amended) The system of claim 13, wherein the third memory area further comprises a plurality of memory tiles.

22. (Currently Amended) A method for raster assembly, the method comprising the steps of:

forming a plurality of lists from image elements within a job file including at least a first list for recurring image elements ~~and, at~~ and at least a second list for variable image elements;

identifying placement, as indicated in the job file, of the ~~reoccurring~~ recurring image elements and the variable image elements in at least one memory area as indicated in the job file for placement in at least one memory area;

initializing the memory area with the ~~reoccurring~~ recurring image elements and the variable image elements in accordance with results from the identifying step; and

raster image processing (RIPping) the memory area subsequent to the initializing step.

23. (Currently Amended) The method of claim 22, wherein the step of RIPping further comprises prerasterizing all the image elements allowing the memory areas to be used as a raster assembly tool.

24. (Currently Amended) The method of claim 22, wherein the step of RIPping allows one pass assembly and RIP processing of rasterized image elements and PDL elements using banded memory.

25. (Currently Amended) The method of claim 23, wherein the step of identifying placement further comprises identifying overlapping image elements.

26. (Currently Amended) The method of claim 25, wherein the step of identifying placement further comprises placing image elements that contain transparent pixels.

27. (Currently Amended) The method of claim 22, wherein the step of forming further comprises adding image masks to recurring image element elements.

28. (Currently Amended) The method of claim 22, wherein the step of RIPping further comprises RIPping ~~elements~~ image elements on distributed computers.

29. (Currently Amended) The method of claim 22, further comprising, following the step of ~~forming the step of~~ forming, storing the rasterized version of recurring image elements in either a lossy or losslessly compressed mode.

30. (Currently Amended) The method of claim 22, further comprising the step of storing image elements in a raster-equivalent graphics state that allows the image elements to be reused and rotated.

31. (Currently Amended) The method of claim 22, wherein the step of forming includes forming the first list with recurring image elements having no variable image elements below them on an image stack and forming the second list with variable image elements that are not prerasterized ~~and, the forming step~~ further comprising the steps of:

forming a third list having recurring image elements that have variable image elements above them on the image stack and ~~below~~ below them on the image stack;
presetting the memory area with image elements from the second list; and
RIPping the image elements of the third list and placing the RIPped image elements of the third list elements into the memory area.

32. (Currently Amended) The method of claim 22, wherein the step of forming further comprises ~~in addition to the first list and the second list,~~ forming (a) a third list containing image elements that either are not prerasterized or image elements that are rasterized and must be subsequently RIPped ~~again~~ due to a layering consideration, ~~and (b) as well as~~ a fourth list containing image elements that are recurring but have variable image elements beneath them on an image stack.

33. (Currently Amended) The method of claim 32, wherein, following the step of ~~forming~~ forming, is a step of prerasterizing recurring image elements from the first list.

34. (Currently Amended) The method of claim 33, wherein the step of initializing further comprises presetting the memory areas with image elements from the second list.

35. (Currently Amended) The method of claim 34, wherein the step of RIPping further comprises RIPping the image elements from the third list.

36. (Currently Amended) The method of claim 35, further comprising the step of ~~for~~ applying the image elements from the fourth list to the memory area.